AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (cancelled).

2. (currently amended) A rocket engine as claimed ~~clamed~~ in claim 14, wherein the separation triggering elements comprise:

injection orifices positioned for injecting fluid through a wall of the nozzle body; and

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at least two independent injection orifices being distributed over the perimeter of the wall of the nozzle body, each of the injection orifices constituting a discrete separation triggering element that induces a distinct zone of jet separation.

3. (previously presented) A rocket engine as claimed in claim 2, wherein the injection orifices are uniformly distributed over the perimeter of the wall of the nozzle body.

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4. (currently amended) A rocket engine as claimed in claim 14, wherein the injection orifices ~~comprise at least~~ consists of two, which are symmetrically positioned around the circumference of said divergent nozzle body.

5. (currently amended) A rocket engine as claimed in claim 3, wherein the injection orifices ~~comprise~~consists of [[3]]three in number and are arranged at substantially 120° to one another over the perimeter of the nozzle body.

6. (currently amended) A rocket engine as claimed in claim 14 ~~2~~, wherein said injection cross section is arranged at distance D from the throat which is substantially less than a distance D_0 of a location of spontaneous separation of the flow at sea level. 112(2nd)

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7. (previously presented) A rocket engine as claimed in claim 6, said means for simultaneously injecting comprising:

a plurality of injectors situated at different distances from the throat for simultaneously injecting said fluid; and

a distributing device for selectively feeding said injectors at different cross sectional locations to take into account the variation of said distance of spontaneous separation of the flow as a function of altitude.

8. (withdrawn): The nozzle as claimed in claim 1, wherein the flow control system exhibits an external stabilizing device integral with a ground-based installation and which exhibits, on the one hand, a number N ($N \leq 2$) of injection tubes (10) each of which constitutes a said separation triggering element, and which are distributed, preferably downstream of the nozzle (4), in such a

way as to direct in counter-current to the main stream of the nozzle a stabilizing fluidic stream toward N impact points (12) situated downstream of the throat (3) of the nozzle (4), and on the other hand, a device (AL) for feeding the injection tubes (10) so as to feed them with fluid for a predetermined transient duration of ignition before takeoff, with a flow rate which is sufficient for each impact point (12) to induce a different zone of jet separation of the nozzle.

9. (withdrawn): The nozzle as claimed in claim 8, wherein the injection tubes (10) are parallel to the axis of the nozzle.

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10. (withdrawn): The nozzle as claimed in claim 8, wherein the injection tubes (10) are arranged at the outlet of the nozzle (4) exit (8).

11. (withdrawn): The nozzle as claimed in claim 8, wherein the impact points (12) of the external stabilizing device are uniformly distributed over the perimeter of the wall of the nozzle.

12. (withdrawn): The nozzle as claimed in claim 11, wherein the impact points (12) of the external stabilizing device are two in number and are diametrically opposed.

13. (withdrawn): The nozzle as claimed in claim 11, wherein the impact points (12) of the external device are three in number and are arranged at substantially 120° to one another over the perimeter of the nozzle.

14. (currently amended) A rocket engine generating a thrust that is parallel with an axis of a divergent nozzle body, said rocket engine comprising:

a combustion chamber;

a throat; ~~and~~

~~a~~ said divergent nozzle body, downstream of said throat;~~, said nozzle body having an axis~~ and

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a control system ~~for controlling~~ to achieve jet separation of ~~a~~ an un-separated flow in the nozzle body, ~~said thrust being parallel with the axis of the nozzle body,~~

~~wherein~~ said control system comprising: ~~comprises,~~

in what manner?

a plurality of mutually spaced independent separation triggering elements positioned on an injection cross section of the divergent nozzle body perpendicular to the axis of the nozzle body, and

a means for simultaneously injecting fluid through the mutually spaced independent separation triggering elements ~~of said injection cross section of the divergent nozzle body, forming a three-dimensional separation of said flow, and for generating distinct zones of jet separation corresponding to the spaced separation triggering elements from a respective plurality of mutually spaced initiation points positioned in the divergent nozzle body, wherein said separation triggering elements are spaced so that said injection occurs through the separation~~

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~~triggering elements~~ to form-jet separation zones, the spacing between consecutive said triggering elements being sufficient to avoid the merger within said injection cross section of two consecutive jet separation zones whereby a three-dimensional separation of the flow is obtained.

15. (canceled).

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16. (currently amended) The rocket engine of claim 14, wherein said a plurality of mutually spaced separation triggering elements ~~comprises~~consists of two mutually spaced separation triggering elements.

17. (currently amended) The rocket engine of claim 14, wherein said a plurality of mutually spaced separation triggering elements ~~comprises~~consists of three mutually spaced separation triggering elements.

18. (previously presented) The rocket engine of claim 14, wherein said a plurality of mutually spaced separation triggering elements comprises at least three mutually spaced separation triggering elements.

19. (New) A rocket engine generating a thrust that is parallel with an axis of a divergent nozzle body, said rocket engine comprising:

a combustion chamber;

a throat; and

a said divergent nozzle body downstream of said throat, said nozzle having an axis and a control system for controlling jet separation of a flow in the nozzle body, wherein said control system comprises:

a plurality of mutually spaced separation triggering elements positioned on an injection cross section of the divergent nozzle body perpendicular to the axis of the nozzle body, said separation triggering elements being comprised of three independent injection orifices uniformly distributed over the perimeter of the wall of the nozzle body, and

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a means for simultaneously injecting fluid through the mutually spaced separation triggering elements of said injection cross section of the divergent nozzle body, whereby generating distinct zones of jet separation corresponding to the spaced separation triggering elements and forming a three-dimensional separation of the flow

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20. (new) A method of achieving jet separation of an un-separated flow in a divergent nozzle body of a rocket engine that generates a thrust that is parallel with an axis of the nozzle body, said rocket engine including a combustion chamber, a throat, and said nozzle body positioned downstream of said throat, said method comprising:

positioning a plurality of mutually spaced independent separation triggering elements on an injection cross section of the divergent nozzle body perpendicular to the axis of the nozzle body; and

simultaneously injecting fluid through said triggering elements to form jet separation zones wherein the spacing between said triggering elements is sufficient to avoid the merger within said injection cross section of two consecutive jet separation zones, whereby a three-dimensional separation of the flow is obtained.

21. (new) A method as in claim 20, wherein said injection cross section is arranged at a distance D from the throat which is substantially less than a distance of spontaneous separation of the flow at an altitude of the rocket engine during said injection.

22. (new) The method of claim 20, wherein in said positioning step, said plurality of mutually spaced separation triggering elements consists of three mutually spaced separation triggering elements.

23. (new) The method of claim 20, wherein in said positioning step, said plurality of mutually spaced separation triggering elements comprises at least three mutually spaced separation triggering elements.

24. (new) The method of claim 20, wherein the positioning step comprises:

uniformly positioning injection orifices for injecting fluid through a wall of the nozzle body over the perimeter of the wall of the nozzle body; and

each of the injection orifices inducing a distinct zone of jet separation.

25. (new) The method of claim 20, further comprising:

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arranging said injection cross section at distance D from the throat, which is substantially less than a distance D0 of a location of spontaneous separation of the flow at sea level.

26. (new) The method of claim 20, said simultaneously injecting comprising:

situating a plurality of injectors at different distances from the throat;

simultaneously injecting said fluid;

selectively feeding said injectors at different cross sectional locations to take into account the variation of said distance of spontaneous separation of the flow as a function of altitude.